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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,316	11/07/2001	Hiroki Nakamaru	1321-01	7966
35811	7590	05/25/2004	EXAMINER	
IP DEPARTMENT OF PIPER RUDNICK LLP ONE LIBERTY PLACE, SUITE 4900 1650 MARKET ST PHILADELPHIA, PA 19103			LISH, PETER J	
			ART UNIT	PAPER NUMBER
			1754	

DATE MAILED: 05/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/045,316	<b>Applicant(s)</b> NAKAMARU ET AL.	
	<b>Examiner</b> Peter J Lish	<b>Art Unit</b> 1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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**DETAILED ACTION*****Response to Arguments***

Applicant's arguments filed 3/9/04 have been fully considered but they are not persuasive. Applicant argues, with respect to the rejections over the Wolfe reference, that sulfur on iron powder in the claimed amounts is not taught. To support this argument, the applicant cites amounts of sulfur outside of the claimed range, as found in the examples of Wolfe. However, the taught range, as cited by the examiner in the rejection of the previous office action, is between 0.1 and 25%, which overlaps with the presently claimed range. Applicant additionally argues that the iron and sulfur may be added in various embodiments, however, it is admitted that iron powder containing sulfur is taught and thus the additional embodiments are negligible.

Applicant argues, with respect to the rejections over the JP '401 reference, that a different mechanism is taught because JP '401 is more concerned with the removal of phosphorous compounds. However, JP '401 teaches the removal of organochlorine compounds (or halogenated hydrocarbons) using iron powder containing sulfur. No difference is seen between the reactants and the catalyst, therefore, it is not seen how the mechanism differs. Applicant additionally argues that JP '401 does not teach the use of iron powder having less than 0.1 wt% Mn. However, as noted in the previous office action, JP '401 teaches an Mn content of less than 0.2 wt%, which overlaps with applicant's claimed range. Furthermore, it is noted that this argument is only drawn toward dependent claim 2.

Applicant argues, with respect to the rejections over the Sivavec reference, that the weight percentage of sulfur in the mixture does not meet the presently claimed range. However,

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applicant relies upon the preferred range and specific examples. The taught range is a 100/1 – 3/1 ratio of iron to ferrous sulfide ( $\text{FeS}_2$ ), which overlaps with the presently claimed range.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolfe '882. The rejection of the previous office action is maintained in its entirety and incorporated herein by reference.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2000-080401. The rejection of the previous office action is maintained in its entirety and incorporated herein by reference.

Claims 1 and 3-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sivavec '927. The rejection of the previous office action is maintained in its entirety and incorporated herein by reference.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Lish whose telephone number is 571-272-1354. The examiner can normally be reached on 9:00-6:00 Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PL



STUART L. HENDRICKSON  
PRIMARY EXAMINER